

REMARKS

Claims 22 and 23 have each been rewritten in independent form and are the same claims as the originally filed claims 22 and 23, respectively.

The Examiner rejected claims 15-20 under 35 U.S.C. §102(b) as allegedly being anticipated by 5,557,844 to Bhatt et al.

The Examiner rejected claims 15-20 and 25 under 35 U.S.C. §103(a) as allegedly being unpatentable over 6,000,130 to Chang et al. in view of Bhatt et al.

The Examiner rejected claims 21, 23 and 24 under 35 U.S.C. §103(a) as allegedly being unpatentable over 5,557,844 to Bhatt et al. in view of Kresge et al.

The Examiner rejected claim 22 under 35 U.S.C. §103(a) as allegedly being unpatentable over 5,557,844 to Bhatt et al. in view of Kresge et al. and further in view of 6,388,208 to Kiani et al.

The Examiner rejected claim 21 under 35 U.S.C. §103(a) as allegedly being unpatentable over 6,000,130 to Chang et al. in view of 5,557,844 to Bhatt et al. and further in view of 5,574,630 to Kresge et al.

The Examiner rejected claim 26 under 35 U.S.C. §103(a) as allegedly being unpatentable over 5,557,844 to Bhatt et al. in view of 5,929,729 to Swarup.

Applicants respectfully traverse the §102 and §103 rejections with the following arguments.

35 U.S.C. §102

The Examiner rejected claims 15-20 under 35 U.S.C. §102(b) as allegedly being anticipated by 5,557,844 to Bhatt et al.

Since claim 20 has been canceled, the rejection of claim 20 is moot.

Applicants respectfully contend that Bhatt does not anticipate claim 15, because Bhatt does not teach each and every feature of claim 15. For example, Bhatt does not teach "forming a first power plane on a first external surface of the substrate and in direct mechanical contact with the first external surface; forming a second power plane on a second external surface of the substrate and in direct mechanical contact with the second external surface; depositing a first redistribution layer on the first power plane and in direct mechanical contact with a surface of the first power plane, wherein the first power plane is disposed between the first redistribution layer and the first external surface; depositing a second redistribution layer on the second power plane and in direct mechanical contact with the second power plane, wherein a surface of the second power plane is disposed between the second redistribution layer and the second external surface".

Based on the preceding arguments, Applicants respectfully maintain that Bhatt does not anticipate claim 15, and that claim 15 is in condition for allowance. Since claims 16-19 depend from claim 15, Applicants contend that claims 16-19 are likewise in condition for allowance.

35 U.S.C. §103: Claims 15-20 and 25

The Examiner rejected claims 15-20 and 25 under 35 U.S.C. §103(a) as allegedly being unpatentable over 6,000,130 to Chang et al. in view of Bhatt et al.

Since claim 20 has been canceled, the rejection of claim 20 is moot.

Applicants respectfully contend that claim 15 is not unpatentable over Chang in view of Bhatt, because Chang in view of Bhatt does not teach or suggest each and every feature of claim 15. For example, Chang in view of Bhatt does not teach or suggest "forming a first power plane on a first external surface of the substrate and in direct mechanical contact with the first external surface; forming a second power plane on a second external surface of the substrate and in direct mechanical contact with the second external surface; depositing a first redistribution layer on the first power plane and in direct mechanical contact with a surface of the first power plane, wherein the first power plane is disposed between the first redistribution layer and the first external surface; depositing a second redistribution layer on the second power plane and in direct mechanical contact with the second power plane, wherein a surface of the second power plane is disposed between the second redistribution layer and the second external surface".

Based on the preceding arguments, Applicants respectfully maintain that claim 15 is not unpatentable over Chang in view of Bhatt, and that claim 15 is in condition for allowance. Since claims 16-19 and 25 depend from claim 15, Applicants contend that claims 16-19 and 25 are likewise in condition for allowance.

35 U.S.C. §103: Claims 21, 23, and 24

The Examiner rejected claims 21, 23 and 24 under 35 U.S.C. §103(a) as allegedly being unpatentable over 5,557,844 to Bhatt et al. in view of Kresge et al.

Since claims 21 and 24 depend from claim 15, which Applicants have argued *supra* to be patentable over Bhatt under 35 U.S.C. §102, Applicants maintain that claims 21 and 24 are not unpatentable under 35 U.S.C. §103(a) over Bhatt in view of Kresge.

As to claim 23, Applicants respectfully contend that the Examiner's argument for modifying Bhatt with the alleged teaching of Kresge is not persuasive. The Examiner argues: "It would have been obvious to one of ordinary skill in the art to modify Bhatt et al. by incorporating providing a substrate with a ground plane; forming a first pair of signal planes within the substrate; forming a first pair of power cores within the substrate; forming a second pair of signal planes within the substrate; and forming a second pair of power cores within the substrate, as taught by Kresge et al., to provide additional circuitry to support an increase in surface mounted devices on the PCB."

In response, Applicants respectfully contend that the Examiner has not supplied a legally persuasive argument as to why a person of ordinary skill in the art would modify Bhatt with the alleged teaching of Kresge in relation to claim 23. In particular, established case law requires that the prior art must contain some suggestion or incentive that would have motivated a person of ordinary skill in the art to modify a reference or to combine references. See Karsten Mfg. Corp. V. Cleveland Gulf Co., 242 F.3d 1376, 58 U.S.P.Q.2d 1286, 1293 (Fed. Cir. 2001) ("In holding an invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have led a person of ordinary

skill in the art to select the references and combine them in a way that would produce the claimed invention"). See also *In re Gordon*, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984) ("The mere fact that the prior art could be so modified would not have made the motivation obvious unless the prior art suggested the desirability of the modification."). The Examiner has not made any showing of where the prior art suggests "to provide additional circuitry to support an increase in surface mounted devices on the PCB". Thus, the Examiner has provided a reason for the combination by speculation, and not by teachings of the prior art. By not citing any suggestion or incentive in the prior art "to provide additional circuitry to support an increase in surface mounted devices on the PCB", the Examiner has failed to establish a *prima facie* case of obviousness in relation to claims 23.

Based on the preceding arguments, Applicants respectfully maintain that claim 23 is not unpatentable over Chang in view of Krcsge, and that claim 23 is in condition for allowance.

**35 U.S.C. §103: Claim 22**

The Examiner rejected claim 22 under 35 U.S.C. §103(a) as allegedly being unpatentable over 5,557,844 to Bhatt et al. in view of Kresge et al. and further in view of 6,388,208 to Kiani et al.

With respect to claim 22, Applicants respectfully maintain that the Examiner's argument with respect to Kiani is an improper modification of the secondary reference of Kresge. The Examiner admits that the primary reference of Bhatt does not disclose "forming a first [and second] pair of signal planes within the substrate". The Examiner also argues that the secondary reference of Kresge has modified the primary reference of Bhatt, by alleging that Kresge teaches or suggests "forming a first [and second] pair of signal planes within the substrate" in modification of Bhatt. The Examiner additionally argues that the secondary reference of Kiani has modified the secondary reference of Kresge, by alleging that Kiani teaches or suggests "wherein the first and second pair of signal planes are controlled impedance circuitry" in modification of the first and second pair of signal planes allegedly taught by Kresge. Applicants maintain that it is improper to argue that a claim feature is taught or suggested by a secondary reference through modification of another secondary reference. If the Examiner could modify a secondary reference in the preceding manner, then the Examiner would be able to show the existence of any element or feature of any claim merely by chaining a sufficient number of secondary references together in the preceding manner. Accordingly, Applicants respectfully maintain that the rejection of claim 22 under 35 U.S.C. §103(a) is improper and should be withdrawn.

Based on the preceding arguments, Applicants respectfully maintain that claim 22 is not

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unpatentable over Bhatt et al. in view of Krcsge and further in view of Kiani, and that claim 22 is  
in condition for allowance.

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**35 U.S.C. §103: Claim 21**

The Examiner rejected claim 21 under 35 U.S.C. §103(a) as allegedly being unpatentable over 6,000,130 to Chang et al. in view of 5,557,844 to Bhatt et al. and further in view of 5,574,630 to Kresge et al.

Applicants respectfully contend that claim 21 is not unpatentable over Chang in view of Bhatt and further in view of Kresge, because Chang in view of Bhatt and further in view of Kresge does not teach or suggest each and every feature of claim 15. For example, Chang in view of Bhatt and further in view of Kresge does not teach or suggest "forming a first power plane on a first external surface of the substrate and in direct mechanical contact with the first external surface; forming a second power plane on a second external surface of the substrate and in direct mechanical contact with the second external surface; depositing a first redistribution layer on the first power plane and in direct mechanical contact with a surface of the first power plane, wherein the first power plane is disposed between the first redistribution layer and the first external surface; depositing a second redistribution layer on the second power plane and in direct mechanical contact with the second power plane, wherein a surface of the second power plane is disposed between the second redistribution layer and the second external surface".

Based on the preceding arguments, Applicants respectfully maintain that claim 21 is not unpatentable over Chang in view of Bhatt and further in view of Kresge, and that claim 21 is in condition for allowance.

**35 U.S.C. §103; Claim 26**

The Examiner rejected claim 26 under 35 U.S.C. §103(a) as allegedly being unpatentable over 5,557,844 to Bhatt et al. in view of 5,929,729 to Swarup.

Since claim 26 depends from claim 15, which Applicants have argued *supra* to be patentable over Bhatt under 35 U.S.C. §102, Applicants maintain that claim 26 is not unpatentable under 35 U.S.C. §103(a) over Bhatt in view of Swarup.

**CONCLUSION**

Based on the preceding arguments, Applicants respectfully believe that all pending claims and the entire application meet the acceptance criteria for allowance and therefore request favorable action. If the Examiner believes that anything further would be helpful to place the application in better condition for allowance, Applicants invites the Examiner to contact Applicants' representative at the telephone number listed below. The Director is hereby authorized to charge and/or credit Deposit Account No. 09-0457.

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